

WHAT IS CLAIMED IS:

1. A prosthetic heart valve, comprising:

at least two cusps comprised of a thin and flexible material, each cusp having an inner surface and an outer surface and being attached to another cusp along a longitudinal suture line, each of the cusps adapted to flex inwardly into and out of engagement with another cusp so as to close and open the valve in response to force by blood pressure;

wherein a portion of the inner surface of one cusp is in a facing relationship with a portion of the inner surface of another cusp adjacent the longitudinal suture line when the valve is open.

2. The heart valve of Claim 1, wherein the valve has an inlet end and an outlet end, and a portion of the inner surface of each cusp is in a facing relationship with a portion of the inner surface of each adjacent cusp adjacent the longitudinal suture line and at the outlet end of the valve.

3. The heart valve of Claim 1, wherein the thin and flexible material comprises pericardial tissue.

4. The heart valve of Claim 1, wherein at least one suture holds a portion of the inner surfaces of adjacent cusps together.

5. The heart valve of Claim 4, wherein the inner surfaces of adjacent cusps are held together toward the out-flow end of the valve so that the cusps are biased partially closed even when the valve is generally open.

6. The heart valve of Claim 4 additionally comprising suture reinforcements.

7. A method for making a prosthetic heart valve, comprising:

providing a section of substantially flat, flexible material;

cutting at least two leaflets out of the flat material, each of the leaflets having an inner face, an outer face, an in-flow end, an out-flow end, and side edges;

sewing the side edges of adjacent leaflets together so as to form a substantially tubular valve structure having an in-flow end and an out-flow end; and

configuring each leaflet so that a portion of the inner face of each leaflet is in a facing relationship with a portion of the inner face of an adjacent leaflet.

8. The method of Claim 7, wherein a portion of the inner face of each leaflet is in a facing relationship with a portion of the inner face of another leaflet at the out-flow end of the valve so that the adjacent leaflets are partially closed.

9. The method of Claim 7 additionally comprising installing a suture stitch through each leaflet to hold a portion of the inner face of the leaflet in a facing relationship with a portion of the inner face of an adjacent leaflet.

10. The method of Claim 9 additionally comprising providing reinforcements for the suture stitches.

11. The method of Claim 7, comprising pinching adjacent leaflets together so that a portion of the inner faces of the adjacent leaflets are in facing relationship with each other.

12. The method of Claim 11, wherein the adjacent leaflets are pinched together at the out-flow end so as to create partial closure of the adjacent leaflets.